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ABSTRACT

The objectives of this paper were to examine the effects of current school and student selection procedures on the proportions of student groups that have access to and/or receive Elementary and Secondary Education Act Title I services and to explore the effects of actual and simulated alternative procedures on these proportions. Data from school districts that participated in a demonstration study of compensatory education were used. Under current regulations, poverty-based school selection criteria and achievement-based student selection procedures resulted in Title I services reaching a higher proportion of doubly disadvantaged (poor and low-achieving) students than any other group. However, a sizeable proportion of those with access to services remained unserved. Under an actual alteration of school and student selection procedures, the numbers of schools and/or students served was expanded. Two simulations were performed. The first, involving the substitution of district-defined achievement criteria for poverty criteria in the school selection process, resulted in larger numbers of educationally disadvantaged students having access to services. The second simulation, a manipulation of student selection procedures, resulted in proportions of students served that were not significantly different from those found under current regulations. (Author/MK)

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WORKING PAPER

THE EFFECTS OF CURRENT AND ALTERNATIVE INTRA-DISTRICT ALLOCATION PROCEDURES ON COVERAGE OF DISADVANTAGED STUDENTS

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ABSTRACT

The objectives of this paper are two-fold:

- to explore the effects of current school and student selection procedures on the proportions of various student groups that have access to and/or receive Title I services; and
- to examine the effects of alternative procedures (both actual and simulated) on these proportions.

Data from 13 school districts participating in a Demonstration Study of Compensatory Education were used to address both objectives. Highlights of the findings are presented below.

With respect to current regulations, it was found that poverty-based school selection criteria and achievement-based student selection procedures resulted in Title I services reaching a higher proportion of the doubly disadvantaged, i.e., the poor and low achieving, than any other group. Even among this group, however, the proportion served under existing regulations was not high. While approximately 60% of all the doubly disadvantaged students were found in Title I schools, only 56 to 76% of them were actually served. Thus, a sizeable proportion of those with access to Title I services did not receive them.

Under waiver of current regulations, the Demonstration districts altered school selection procedures, as well as student selection procedures. They also expanded the numbers of schools and/or students served. Together these changes generally resulted in an increase in coverage for both the doubly disadvantaged and low-achieving (but not poor) groups.

To accomodate the expansion of services most districts were forced to make major programmatic shifts and/or to utilize additional resources. Assuming that additional resources would not necessarily be available for districts wishing to adopt alternative school selection procedures, two

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simulations were performed. In both, a limitation was placed on the numbers of schools and/or students to be served.

The first simulation involved substituting district-defined achievement criteria for poverty criteria in the school selection process. Holding the number of schools constant, we found that achievement-based school selection generally resulted in larger numbers of educationally disadvantaged students having access to Title I services. The advantages of achievement-based criteria, however, were relatively small, and by no means certain. At least some districts were able to use poverty criteria to identify schools with large numbers of educationally disadvantaged students, especially those who were both low achieving and poor. It should be noted, however, that this simulation may underestimate the differences between the two approaches. If the number of schools selected under poverty versus achievement criteria were free to vary, it is likely that the latter would result in a larger pool of educationally disadvantaged students having access to Title I services than observed here.

The second simulation was designed to identify the proportion of low achievers who could be served, if low-achieving students in all schools had access to Title I services, but no additional students were served. It was found that serving low-achieving students regardless of attendance area would not result in a greater increase in the proportion of such students served than could be achieved through maximizing student selection procedures in Title I schools selected under current regulations.

1.0 INTRODUCTION

A recent survey of compensatory education programs revealed that large proportions of students who were low-achieving and/or students from poor families were not being served. Nationally, only 47% of all low-achieving students and 40% of all students from low-income families were selected for compensatory education, leaving more than half the population of such students without access to compensatory services. Coverage for the doubly disadvantaged*--those who were both low achieving and poor--was only slightly higher than for those who were either low achieving or poor. Using grade equivalent or percentile cutoffs, the proportion of doubly disadvantaged students served was estimated at between 50% and 56%.**

Since current Title I regulations are designed to target services to low-achieving students in schools with large numbers (or proportions) of poor students, it is surprising that so few disadvantaged students, especially the doubly disadvantaged, are in fact being served. There are at least two possible explanations for this observation:

- Because Title I is not adequately funded, not all students in need of compensatory services can receive them. That is, while current regulations result in concentration on the most needy, resources are simply not sufficient to serve all disadvantaged students.

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*Coverage is defined as the proportion of students with a given characteristic who are served by compensatory education programs. The terms "coverage" and "doubly disadvantaged" will be used throughout this paper.

**Vincent Breglio, et al., The Participation Study: An Assessment of Who Is and Who Is Not Selected For Compensatory Education. Congresssional testimony from Technical Report #2 of the Study of the Sustaining Effects of Compensatory Education on Basic Skills prepared for the House Subcommittee on Education (Decima Research: Arlington, VA, October 26, 1977).

- Because of current school and student selection procedures, not all of the students who are in need of services can be reached. For example, Title I schools selected on the basis of poverty may be filled with students who are poor but not low achieving. Alternatively, while school selection procedures may identify schools with high proportions of low-achieving students, student selection techniques may not concentrate on these low-achieving groups.

Previous analyses performed on data from 13 school districts participating in a Demonstration Compensatory Education Study suggest that these districts did not focus their services only on low-achieving and/or poor students.* Since the districts had sufficient resources to serve at least some non-disadvantaged students (according to a somewhat restrictive definition of low achievement), the first reason does not adequately explain the low levels of coverage. It appears then that some aspect of current regulations is in part responsible for the low levels of coverage of the disadvantaged. The focus of this paper, which is based on data from the Demonstration Compensatory Education Study, is on this second explanation.**

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*James J. Vanecko, et al., ESEA Title I Allocation Policy: Demonstration Study--Analysis of Baseline Data, Volumes I and II (Abt Associates Inc.: Cambridge, Massachusetts, October 31, 1977).

**The 13 school districts which are participating in this three-year study have been granted waivers of federal ESEA Title I regulations to establish "working models" of Title I allocation changes considered by Congress during deliberation on the Educational Amendments of 1974. The research component of the Demonstration Study, which is sponsored by the National Institute of Education, is designed to describe the alternative allocation policies adopted by the districts and to examine the effects of these policies on the characteristics and experiences of participating students, program delivery and associated costs, and community response. For a detailed description of the allocation policies chosen by each district and overall study design, see James J. Vanecko, et al., ESEA Title I Allocation Policy: Demonstration Study--Implementation Decisions and Research Plan (Abt Associates Inc.: Cambridge, MA, 1977).

The two basic objectives of the paper are:

- to explore the effects of current regulations and procedures on coverage of various disadvantaged student groups; and
- to examine the effects of alternative procedures (both actual and simulated) on coverage of these groups.*

Within a district two different but interacting types of administrative decisions determine who gets served by Title I:

- school selection procedures which determine in how many and which specific schools Title I programs will be available; and
- student selection procedures which determine how many and which students within the schools with Title I programs will receive Title I services.

Together these two types of decisions, as made by local officials and as constrained by federal and state regulations, determine the coverage of four different groups of students:

(1) the doubly disadvantaged;

(2) students who are low achieving but not from low-income families;

(3) students who are from low-income families but are not low-achieving; and

(4) students who are neither low-achieving nor from low-income families.

Much of the current debate over Title I policy (particularly that which concerns the choice of poverty versus educational achievement criteria for allocating funds and services) involves the issue of priorities between and among the first three of the four student groups described above. Since its inception, Title I has operated at funding levels which prevented at least some poor and/or low-achieving students from being served by Title I. Thus, administrative procedures must

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*It should be noted, however, that the simulations presented here are limited in number and purpose. Additional simulations of a variety of allocation options will be forthcoming.

be evaluated with respect to some notion of target efficiency, that is, the extent to which they insure that the most disadvantaged students receive compensatory educational services.* In essence, this paper is concerned with the impact of various school and student selection procedures on target efficiency.

During the first or baseline year of the Demonstration Study, the 13 participating school districts operated under current Title I regulations governing school and student selection. Thus, data from the baseline year, 1975-76, may be used to address the effects of current poverty-based student selection procedures on coverage of the various student groups. These effects are the subject of Section 2.0.

During the second year of the study, 1976-77, federal regulations were waived and the Demonstration districts were allowed to adopt alternative allocation strategies. Data from 1976-77, therefore, may be used to determine whether the allocation options actually selected by the districts resulted in changes in the relative representation of the three groups of disadvantaged students. The observed outcomes of these alternative strategies are described in Section 3.0.

In altering allocation practices, the Demonstration districts generally made a number of changes simultaneously. Most altered the manner in which both schools and students were selected, as well as the numbers of schools and students served.** For this reason, it is impossible, using the 1976-77 data, to separate the effects of changes in school and/or

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*Any discussion of "most disadvantaged" is in danger of getting bogged down in definitional or measurement issues. A major issue has to do with the continued use of poverty criteria in the Title I allocation process. It is often impossible to determine whether advocates of poverty criteria believe that they are an efficient means of getting aid to the most educationally disadvantaged, or that students from low-income families are appropriate targets for federal assistance independent of educational achievement as measured by test scores. The term "doubly disadvantaged" accepts the notion that poverty background provides an independent measure of relative educational disadvantage.

**In doing so, they were generally required to make major programmatic shifts and/or to find additional resources.

student selection procedures from the effects of program expansion. In addition to presenting the observed outcomes, therefore, we have used the 1975-76 data to describe the potential impact of altered school selection procedures on coverage, while holding other things constant. The two alternative school allocation strategies which are elaborated upon in Chapter 4.0 are as follows:

- Direct Allocation. Under this policy all schools within a given grade span become Title I, and low-achieving students are targeted regardless of the school attended. Resources are allocated on the basis of the proportion of low-achieving students in each school.

- Achievement Allocation. Under this policy, schools are ranked on the basis of the proportion of low achievers enrolled and targeted if this proportion falls below a given cutoff level.

Variations of both of these options were selected by the Demonstration districts under waiver of current regulations.

It should be noted that the 13 school districts participating in the Demonstration Study are self-selected and not a random sample. They are, however, geographically diverse and display demographic and programmatic characteristics similar to those of a national probability sample of 100 school districts surveyed as part of the National Institute of Education's congressionally mandated Compensatory Education Study. Only with respect to size are they somewhat deviant, being overrepresented by districts with large and medium-sized enrollments.*

On the average, 33% of all low-achieving students, 26% of all students from poor families, and 38% of the doubly

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*For a fuller discussion of the demographic and programmatic characteristics of the Demonstratin districts, see James J. Vanecko, et al., ESEA Title I Allocation Policy: Demonstration Study--Analysis of Baseline Data, Volumes I and II (Abt Associates Inc.: Cambridge, Massachusetts, October 31, 1977).

disadvantaged were served by Title I in the Demonstration districts during the baseline year. With respect to all compensatory programs, coverage was somewhat higher, approximating that reported in the Participation Study.* Thus, despite the fact that each study used different measures of poverty and achievement, coverage in the two groups of districts was roughly comparable.** We therefore assume that the data presented here are generalizable to a wider group of districts.

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*Vincent Breglio, et al., op. cit.

**In the Demonstration Study, poverty status of the child was determined by free lunch participaton. The Participation Study estimated poverty on the basis of counts of children whose parents' income fell below the relevant Orshansky cut-off, all children of AFDC recipients not counted using the Orshansky method, and all institutionalized students in public schools. In both studies, low achievement was defined as reading one year or more below grade level. Demonstration estimates were based on teacher reports and national estimates on standardized test scores.

2.0 COVERAGE OF DISADVANTAGED STUDENTS UNDER STANDARD ALLOCATION REGULATIONS, 1975-76

During 1975-76, the baseline year of the Demonstration Study, all districts selected schools for Title I services on the basis of poverty rankings and students for Title I instruction on the basis of individual achievement, in compliance with current federal regulations. In this section, we describe the impact of these regulations on the the four groups of students of interest. In particular, we examine:

1. The effects of poverty-based school selection procedures on the pool of students that can be served, i.e., the proportion of students from the various student groups who attend Title I schools.

2. The effects of achievement-based student selection procedures on the targeting of students within that pool, i.e., the proportion of students from each group within Title I schools who are actually served.

3. The combined effects of school and student selection procedures on coverage of students from the various groups, i.e., the product of 1 and 2 above.

Presenting these results for all 13 districts and all four groups of students simultaneously would be somewhat unwieldy. On the other hand, presenting average figures across all 13 districts might obscure important differences among types of districts. For purposes of discussion, therefore, we have classified districts into three groups depending on the alternative school selection policies chosen for the first year of the implementation of waivers. The three classifications, which are used throughout this and the following section, are: 1) direct allocation (six districts); 2) achievement allocation (two districts); and 3) other (five districts).*

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*The direct allocation and achievement allocation options were described in Section 1.0. The remaining districts, which included two very large school systems, made various changes in school and/or student selection procedures. These generally resulted in additional Title I schools being selected on the basis of achievement and/or serving all or almost all students within certain Title I schools.

The first column of Table 2.1 presents the mean proportions of the four student groups (doubly disadvantaged, low achieving only, poor only, and neither) who were in Title I schools during the baseline year of the Demonstration, 1975-76. These proportions represent the pool of potential students from which Title I participants may be selected. For all types of districts, approximately 60% of the doubly disadvantaged students were in Title I schools during the baseline year, and a slightly lower proportion of poor (but not low-achieving) students. The proportion of low-achieving (but not poor) students in Title I schools was lower than either the proportion of doubly disadvantaged or the proportion of poor students in these schools, ranging from 38% to 47%. Thus, it appears that school selection procedures based on poverty resulted in the identification of schools with roughly equal proportions of all doubly disadvantaged and poor students in the district, and a somewhat lower proportion of all low-achieving students in the district.

These results reveal that a sizeable proportion of the disadvantaged students in these districts attended Title I schools and could have been served prior to the granting of waivers. Column 2 of Table 2.1 gives estimates of the mean proportions of each student group in Title I schools who were actually served.

In the direct allocation districts, 56% of the doubly disadvantaged, 47% of the low achieving, and 18% of the poor students in Title I schools were served. In the achievement allocation districts, 76% of the doubly disadvantaged, 63% of the low achieving, and 22% of the poor students in Title I schools were served. Averages for the other districts were 61%, 57%, and 41%, respectively. Thus, despite some variation across district types, it appears that student selection procedures based on achievement reached higher proportions of doubly disadvantaged and low achieving students within Title I schools than of students from poor families.

TABLE 2.1

DISTRIBUTION AND COVERAGE OF VARIOUS STUDENT GROUPS
IN THE BASELINE YEAR (1975-76)
BY ALLOCATION TYPOLOGY*

TYPOLOGY	(1) AVERAGE PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS	(2) AVERAGE PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS WHO ARE ACTUALLY SERVED	(3) AVERAGE COVERAGE OF EACH STUDENT GROUP
DIRECT ALLOCATION DISTRICTS			
Doubly Disadvantaged	62	56	37
Low Achieving Only	45	47	23
Poor Only	58	18	11
Neither	40	8	3
ACHIEVEMENT ALLOCATION DISTRICTS			
Doubly Disadvantaged	57	76	44
Low Achieving Only	47	63	31
Poor Only	54	22	11
Neither	46	7	3
OTHER DISTRICTS			
Doubly Disadvantaged	66	61	40
Low Achieving Only	38	57	21
Poor Only	59	41	22
Neither	27	23	5

*See Appendix Tables A-2 to A-5 for comparable figures for each of the 13 Demonstration districts.

In addition, the doubly disadvantaged were slightly more apt to be selected for Title I than those students who were low-achieving only.

Under current policy and stated practice, student selection within Title I schools is supposed to be based solely on educational disadvantage. Thus, the fact that student selection rates for the doubly disadvantaged exceeded such rates for the low-achieving only is worthy of note. It is possible that these differential selection rates occurred because the doubly disadvantaged were in fact the most educationally needy within the pool of low-achieving students. Such a finding would be entirely consistent with the common assumption that poverty status is a surrogate for educational need. Differential selection rates could also have occurred, however, if districts implicitly used poverty as a factor in the determination of student participation over and above educational disadvantage. Given that Title I offers not only instructional services, but also counseling, medical, and social services, it is quite possible that economic criteria may have entered into the final choice between students with similar educational needs.

The final column of Table 2.1 presents estimates of the mean proportions of all students in each group who were served by Title I. Across all three district types, approximately 40% of all the doubly disadvantaged students and a somewhat smaller proportion of all the low-achieving only students is the district (ranging from 21% to 31%) were served during the baseline year. In contrast, relatively few of the poor-only students (ranging from 11% to 22%), and less than 5% of the non-disadvantaged were served.*

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*Coverage of students in the latter two groups might be considered to be in violation of current regulations in which student selection is based on achievement only. However, the imprecise nature of our measures and the fact that we have used a rather strict definition of educational disadvantage, (one which districts themselves do not generally employ), would suggest that this is not necessarily the case. Students in these groups may be considered educationally disadvantaged on the basis of some other measure or higher cut-off.

Summarizing the results in Table 2.1, we find that school selection criteria based on poverty had the effect of ensuring that a higher percentage of poor than non-poor students were included in schools where Title I programs were offered. Student selection criteria based on achievement had the effect of ensuring that the program reached more of the students who were educationally disadvantaged. Taken together, these procedures resulted in greater coverage for the doubly disadvantaged than for the other groups. Even with respect to the doubly disadvantaged, however, coverage under existing regulations was not high. During the first year of the Demonstration, while approximately 60% of all doubly disadvantaged students were in Title I schools, only 56% to 76% of the students in those schools were actually served. Thus, a sizeable proportion of the doubly disadvantaged students who had access to compensatory services did not receive them.

3.0 COVERAGE OF DISADVANTAGED STUDENTS UNDER ALTERNATIVE ALLOCATION POLICIES, 1976-77

Given the opportunity to alter intra-district allocation policies, the Demonstration districts chose not only to alter school selection procedures but to expand services as well. In the case of the direct allocation districts, expansion to additional schools was a direct outcome of the choice of school selection strategy. In other cases, the decision to serve additional schools and/or students was made independently of the choice of school selection procedures. Whatever the reason, virtually all districts increased the numbers of schools and/or students served, as displayed in Table 3.1.

Given the expansion to additional schools, one would expect to find larger proportions of students from each student group in Title I schools and fewer students excluded from program participation simply on the basis of school assignment. Given the increase in students served, one would also expect larger proportions of students from each student group to be served overall. Table 3.2 (columns 2 and 6) confirms these expectations.

The first column of Table 3.2 presents the percentage of each student group attending the Title I schools selected as a result of the alternative allocation policies adopted by the Demonstration districts in 1976-77. The second column compares this percentage with the baseline figure.

In the direct allocation districts, Title I programs were available in all elementary schools in 1976-77. Thus, no student was denied access to compensatory educational services by virtue of assignment to a non-Title I elementary school. In effect, the direct allocation districts eliminated school selection criteria as a factor in the allocation process; who was served was a function of available resources and student selection procedures based on educational achievement. In

TABLE 3.1

CHANGES IN THE NUMBER OF PUBLIC ELEMENTARY SCHOOLS AND STUDENTS SERVED BY TITLE I IN THE DEMONSTRATION DISTRICTS

DISTRICT	1975-76 NUMBER OF PUBLIC ELEMENTARY SCHOOLS SERVED BY TITLE I (1)	1976-77 NUMBER OF PUBLIC ELEMENTARY SCHOOLS SERVED BY TITLE I (2)	PROPORTIONAL CHANGE IN SCHOOLS SERVED BY TITLE I (3) = (2-1)/1	1975-76 NUMBER OF PUBLIC ELEMENTARY STUDENTS SERVED BY TITLE I[d] (4)	1976-77 NUMBER OF PUBLIC ELEMENTARY STUDENTS SERVED BY TITLE I[e] (5)	PROPORTIONAL CHANGE IN STUDENTS SERVED BY TITLE I (6) = (5-4)/4
DIRECT ALLOCATION DISTRICTS						
Adams County #12	3	16	433%	174	591	240%
Harrison County	25	30	20%	1,409	1,823	29%
Mesa	14	25	79%	2,494	3,229	29%
Newport	3	9	200%	175	445	154%
Racine	18[a]	33[a]	106%	760[d]	1,552[d]	104%
Santa Fe	11	16	45%	735	1,149	56%
ACHIEVEMENT ALLOCATION DISTRICTS						
Charlotte	49	57	16%	6,440	6,156	-4%
Winston-Salem	13	24	85%	1,812	3,310	83%
OTHER DISTRICTS						
Alum Rock[c]	9	18	100%	3,962	9,560	141%
Berkeley County	10	11	10%	630	1,106	76%
Boston	65	74	14%	10,130	10,572	4%
Houston	54	58[b]	7%	19,518	17,854	-9%
Yonkers	9	9	0%	2,375	2,855	20%
		AVERAGE	86%		AVERAGE	71%

[a] First-year schools in Racine are counted in the same way as 2nd-year schools. Note that the 33 schools served in Year 2 include four schools served with state compensatory education funds in the same manner as Title I schools. These schools will be funded by Title I in 1977-78 when state funds become available.

[b] Five schools supported with state compensatory education funds are not counted in this total, even though they were made eligible under state-granted waivers, because other schools in the district also receive state funds.

[c] As Alum Rock shifted Title I money into new schools in the 2nd year, it took from them equal amounts of money from other sources. There was no real change in the scale of the compensatory program in terms of schools served.

[d] Figures updated from December report to Congress based on subsequent site visits.

[e] Based on district end-of-year reports submitted to NIE in June 1977.

TABLE 3.2

CHANGES IN DISTRIBUTION AND COVERAGE
OF VARIOUS STUDENT GROUPS FROM 1975-76 TO 1976-77
BY ALLOCATION TYPOLOGY*

TYPOLOGY	AVERAGE PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS		AVERAGE PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS WHO ARE ACTUALLY SERVED		AVERAGE COVERAGE OF EACH STUDENT GROUP	
	(1) 1976-77	(2) CHANGE FROM 1975-76	(3) 1976-77	(4) CHANGE FROM 1975-76	(5) 1976-77	(6) CHANGE FROM 1975-76
DIRECT ALLOCATION DISTRICTS						
Doubly Disadvantaged	100	40	52	-4	52	15
Low Achieving Only	100	58	50	3	50	28
Poor Only	100	43	13	-5	13	2
Neither	100	63	5	-3	5	2
ACHIEVEMENT ALLOCATION DISTRICTS						
Doubly Disadvantaged	84	26	62	-14	52	8
Low Achieving Only	78	31	48	-15	38	7
Poor Only	85	31	15	-7	13	1
Neither	68	22	4	-3	3	0
OTHER DISTRICTS**						
Doubly Disadvantaged	74	8	65	4	49	9
Low Achieving Only	47	9	58	1	28	7
Poor Only	68	11	32	-9	22	0
Neither	38	11	23	0	6	1

*See Appendix Tables A-6 to A-9 for 1976-77 figures for each Demonstration district.

**Alum Rock has been excluded from these averages, because its figures are markedly different from those of the other districts in this typology.

the remaining types of school districts, school selection criteria continued to restrict Title I programs to a subset of elementary schools. Thus, some portion of each of the three disadvantaged groups did not have access to Title I services by virtue of assignment to non-Title I elementary schools. Even in these districts, however, changed school selection criteria and/or the inclusion of additional schools resulted in more students from each group being in Title I schools. Therefore, as a result of each of the alternative allocation policies employed by the Demonstration districts under the waiver of federal requirements, more students from each group were in Title I schools, and fewer students were excluded from Title I services by virtue of school assignment.

If school selection criteria became less important in determining who would be served by Title I in 1976-77, by definition, achievement-related student selection criteria became more so. Column 3 of Table 3.2 shows the student selection rates for each group of students in Title I schools. Because the pool of students who were in Title I schools and could thus be selected for participation increased more than the number of students actually served, one would expect to see a decrease in the overall rate of selection for 1976-77 for all students within Title I schools. The observed change in the rate of selection for any particular group of students, however, could be either positive or negative. Column 4 of Table 3.2 describes these changes in selection rates, which were generally small in magnitude when compared with the percentage increase in the pool of students who could be served.

Columns 5 and 6 of Table 3.2 describe the net impact on coverage of changes in the pool of students attending Title I schools and selection of students within that pool. As can be seen, the proportion of all doubly disadvantaged and low-achieving (but not poor) students who were served increased in all types of districts in 1976-77. Thus, the districts did succeed in reaching more of both types of

low-achieving students. Coverage of the poor (but not low achieving), on the other hand, remained virtually unchanged.

In the direct allocation districts, eliminating school selection criteria (based on poverty) not only increased coverage of the low achieving groups, but also removed the priority given to the doubly disadvantaged. That is, under waivers, coverage of the doubly disadvantaged was essentially equivalent to coverage of the low-achieving non-poor (52% versus 50%, respectively). In the remaining districts, the increase in coverage for the doubly disadvantaged was roughly equal to the increase in coverage for the low-achieving non-poor. Therefore, although absolute coverage of both groups increased, there was no change in the relative priority given the doubly disadvantaged and the low-achieving non-poor.

4.0 SIMULATION OF ALTERNATIVE ALLOCATION STRATEGIES

In the preceding sections we described the effects of several alternative allocation strategies on the pools of students that were enrolled in the schools selected for Title I and on the coverage of disadvantaged students district-wide. The districts were classified according to the allocation options they chose to implement under waivers. Even within the two major groups (direct and achievement allocation), however, districts varied in the ways their plans were implemented. They varied student selection procedures as well as school selection procedures. They also increased the numbers of schools and/or students served, although to differing degrees.

In order to provide elementary instructional services to more schools and students, many districts were forced to make major program shifts, to draw upon unspent funds carried over from the previous year, and/or to find additional resources.* It is unlikely that most districts would be able to support such expansion, or even that all of the Demonstration districts would be able to continue to provide increased services indefinitely.

The purpose of this section is to explore the effects of alternative school selection policies on the pools of students with access to Title I services and/or on student coverage, while controlling for other changes in the allocation process. In order to explore the effects of such policies in a wide variety of settings, we include each participating district in these analyses, regardless of the alternative strategy actually adopted by that district.

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*For a more detailed discussion of the means by which the Demonstration districts supported program expansion, see Jane H. Sjogren, et al., "Analysis of Resources Used to Increase Title I Elementary Instructional Services Under the Title I Funds Allocation Demonstration" (Abt Associates Inc.: Cambridge, Massachusetts, February 17, 1978).

4.1 Simulation of the Achievement Allocation Option

There are many possible methods by which districts could employ achievement criteria in the determination of school eligibility. They could, for example, follow current regulations with respect to poverty criteria, and deem eligible all schools whose proportion (or number) of low achievers falls below the district average proportion (or number). Alternatively they could employ the procedure actually adopted by two of the Demonstration districts and select all schools in which a certain proportion of students fall below a specified cut-off level (e.g., 35% below the 30th percentile). In both of these cases, however, the number of schools deemed eligible and/or selected for Title I might differ from the corresponding number chosen according to poverty criteria.

In the simulation presented here, we attempt to compare the effects of poverty- versus achievement-based school selection criteria on the pools of students with access to Title I services, while holding constant the number of schools selected for service (i.e., setting it equal to the number served in the baseline year).* This approach assumes that the number of schools actually served by a district is in part a function of actual resource constraints and accompanying concentration decisions, and not simply the by-product of the application of a given selection criterion.**

The simulated Title I schools were selected on the basis of rankings supplied by the districts. (Since such rankings were not available for 1975-76, 1976-77 data were utilized.) These rankings were based on the percentage of students in each school who were low achieving, where low achievement was defined by each district using its own

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*Additional simulations, based on other approaches to achievement allocation, will be presented in subsequent reports.

**To the extent that this assumption is false, this simulation is likely to underestimate the differences between the pools of students which might be identified by poverty versus achievement criteria.

criteria. The schools with the lowest ranks (i.e., the greatest percentages of low achievers) were designated Title I schools for purposes of the simulation. Counts of the students from each disadvantaged group who were in the designated schools formed the basis for our estimates of the various pools. These were then transformed into proportions based on the total number of students in the district.*

The pool figures derived in this way were compared with the corresponding figures for the baseline year. These are given in Table 4.1. Since the motivation in adopting achievement-based school selection criteria is to reach more low-achieving students, data are presented solely for three groups of such students: 1) all low achievers; 2) the doubly-disadvantaged; and 3) low achievers only.

In eight of the 12 districts for which data were available, there were higher proportions of low achievers (both poor and non-poor) in the pool defined by using achievement criteria for school selection. (See columns 1-3.) Charlotte and Winston-Salem, the two districts which actually elected to select schools on the basis of achievement in 1976-77, were among this number. While in most districts the differences were rather small (less than or equal to 10%), in two districts the difference was substantial (Racine and Winston-Salem).

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*Student counts were based on the researchers' definitions of poverty and low achievement, as defined previously. In the districts where not all schools were surveyed in the Demonstration research, (Berkeley County, Harrison County, Racine, Winston-Salem, and Yonkers), the data were weighted to reflect the relative size of the Title I and non-Title I school populations. Because of this weighting, it was possible for the estimate of the total number of students in a district to vary slightly from one analysis to another. We felt, therefore, that the use of proportions provided a better basis for the comparison of pool estimates than did the use of raw numbers.

TABLE 4.1

PERCENTAGE OF STUDENTS IN TITLE I SCHOOLS UNDER POVERTY- AND ACHIEVEMENT-BASED SCHOOL SELECTION PROCEDURES

DISTRICT	ALL LOW ACHIEVING			DOUBLY DISADVANTAGED			LOW ACHIEVING ONLY		
	POVERTY SELECTED SCHOOLS	ACHIEVEMENT SELECTED SCHOOLS	DIFFER-ENTIAL	POVERTY SELECTED SCHOOLS	ACHIEVEMENT SELECTED SCHOOLS	DIFFER-ENTIAL	POVERTY SELECTED SCHOOLS	ACHIEVEMENT SELECTED SCHOOLS	DIFFER-ENTIAL
DIRECT ALLOCATION DISTRICTS									
Adams County #12	22	20	-2	32	25	-7	19	18	-1
Harrison County	82	92	+10	88	93	+5	71	90	+19
Mesa	58	68	+10	66	79	+13	52	59	+7
Newport	46	36	-10	46	42	-4	46	26	-20
Racine	37	65	+28	53	64	+11	27	65	+38
Santa Fe	79	68	-11	85	74	-11	53	45	-8
ACHIEVEMENT ALLOCATION DISTRICTS									
Charlotte	67	71	+4	72	70	-2	61	73	+12
Winston-Salem	38	53	+15	42	61	+19	32	42	+10
OTHER DISTRICTS									
Alum Rock	52	*	--	55	*	--	32	*	--
Berkeley County	74	81	+7	82	83	+1	64	79	+15
Boston	68	76	+8	71	79	+8	46	57	+11
Houston	36	40	+4	45	50	+5	17	20	+3
Yonkers	62	47	-15	77	55	-22	32	31	-1
AVERAGE (excluding Alum Rock)	56	60	+4	63	65	+2	45	50	+5

*Excluded from this simulation

In the four remaining districts--Adams County #12, Newport, Santa Fe, and Yonkers--there were higher proportions of low-achievers in the pools defined by using poverty-based selection criteria. Given the expectation that school selection procedures based on achievement would result in higher proportions of low achievers in Title I schools, these districts, with apparently lower proportions, require explanation.*

In two of the four cases, the results for the doubly disadvantaged and low achieving only help to explicate the results for low achievers as a whole. In Adams County #12 and Yonkers, the finding for all low achievers reflects the fact that more doubly disadvantaged attend poverty-selected schools. Column 9 shows that there is essentially no difference between poverty- and achievement-selected schools with respect to students who are low achieving only in these two sites. Targeting on the basis of poverty in these districts appears to ensure larger pools of the doubly disadvantaged and equal pools of low achievers.

In the case of Newport, selection on the basis of poverty appears to result in greater proportions of both the doubly disadvantaged and low-achieving only in Title I schools. This result is probably a function of the cut-off level used for achievement selection (Newport uses a 50% cut-off), which is much less restrictive than the corresponding poverty-based cut-off. Only one of the three achievement-selected schools in this district was previously poverty eligible.

Santa Fe is more difficult to interpret. The overlap between poverty and achievement schools in this district is high (10 of 11 achievement-selected schools are also poverty-selected schools), and yet the proportion of educationally

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*This finding would actually be a logical impossibility were it not for the fact that school selection in this simulation is based on district criteria and on percent rather than number of low achievers. Student characteristics are based on the researchers' definition of low achievement, which is generally more restrictive.

disadvantaged in Title I schools is lower under achievement selection. Two things may account for this finding. First, there are only a few students in the district who are low achievers only, and the percentages give no indication of the size of the differences in the numbers of students who are selected by poverty- or achievement-based school criteria. Second, the school which loses Title I status under the application of achievement criteria is much larger than the school which takes its place. So, although only one school changes its Title I status, the number of students in achievement-selected Title I schools is lower than the number in poverty-selected schools. Both factors help to de-emphasize the apparent magnitude of percentage changes displayed in Table 4.1.

In summary, these results suggest that achievement-based school selection procedures usually result in higher proportions of low achievers having access to Title I services than poverty-based procedures, even when the number of schools served is constrained. Under this limitation, however, the advantage of achievement-based procedures is relatively small, and by no means certain. The pool of students resulting from the application of either criterion is likely to be a function of many factors, including the number of schools to be served, the distribution of poverty and achievement across the district, school size, the cut-off levels employed in school selection, etc. For at least certain districts, poverty appears to be a fairly good surrogate for achievement in identifying schools with large numbers of educationally disadvantaged students. This is particularly true with respect to the doubly disadvantaged.

It should be noted that the figures presented in Table 4.1 represent theoretical upper limits on coverage given these school selection criteria. The proportions of students in Title I schools would represent the highest coverage rates attainable if all low-achieving students with access to services were actually served in each district. This would

imply a selection rate of 100%, and, in many cases, an increase in the number of Title I students served when compared with the baseline year. Any selection rate lower than 100% would result in coverage figures lower than the results presented in Table 4.1. The practical reality of such an upper limit is determined both by the level of Title I funding and the accuracy of student targeting procedures in each district. Without knowledge of such factors we cannot present more specific figures than the broad limits given here.

4.2 Simulation of the Direct Allocation Option

The previous section discussed the effect of poverty- versus achievement-based school selection procedures on the pool of students wtih access to Title I services. Under the direct allocation model, all schools would be eligible for Title I services. Thus, 100% of the students in the district would be in the Title I pool, and no student would be denied access to such services on the basis of school assignment. Coverage, under this option, would thus be solely a function of student selection procedures and the numbers of students served, as dictated by resource constraints. This section compares the effects on coverage of current (i.e., poverty-based) school selection procedures versus the direct allocation strategy, when a systematic student selection rule is applied to the pools of students defined by each approach.

Since we do not know exactly what selection rules might be adopted under the direct allocation option, we impose an arbitrary, but consistent, rule that maximizes the numbers of low-achieving students served by Title I. It assumes that all low-achieving students <u>can</u> be identified, and that <u>only</u> low-achieving students will be served. While this rule is obviously theoretical in nature, it does reflect the goal of the direct allocation option, i.e., to serve those most in educational need, regardless of attendance area. In addition,

the selection rule also incorporates the assumption that the number of Title I students served in the simulations will equal the number served during the baseline year.*

Imposing the selection rule on both poverty-based and direct allocation student pools results in estimates of the total number of low-achieving students served from each pool. We can then estimate coverage of the doubly disadvantaged and low achieving only by breaking down this overall group in direct proportion to the sizes of the respective subgroups in each pool. The results of these simulated student selection procedures within the poverty- and direct allocation-defined pools are shown in Table 4.2. Also shown are coverage figures actually obtained in the baseline year.

As displayed in Table 4.2, even for poverty-selected schools, there is an increase in the coverage of low-achieving students using the simulated student selection procedure compared with the baseline year procedure. This is to be expected, since the simulated procedure effectively prioritizes low achievers over all other groups. The magnitude of the increase varies among districts, however. In Adams County #12, for example, there is virtually no change. In Harrison County, Alum Rock, and Santa Fe, on the other hand, the increase exceeds 20%. The actual increase is a function of three factors: 1) the number of low achievers served in 1975-76, 2) the number of low achievers in Title I schools, and 3) the number of students served overall. The higher the proportion of low-achieving students actually served in 1975-76 (1 ÷ 2), the smaller the increase in coverage, other things being equal. So too, the higher the proportion of low achievers to total students served (1 ÷ 3), the smaller the increase, other things being equal.

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*The maximum number of low achievers served in each pool is defined as the actual number in the pool or the number of students served during the baseline year, whichever is smaller. In effect, this rule identifies the largest number of low achievers that can be served, given resource limitations.

TABLE 4.2

COVERAGE OF LOW-ACHIEVING GROUPS FOR BASELINE AND SIMULATED STUDENT SELECTION PROCEDURES BY SCHOOL SELECTION PROCEDURE

DISTRICT	ALL LOW ACHIEVING			DOUBLY DISADVANTAGED			LOW ACHIEVING ONLY		
	BASELINE	SIMULATED STUDENT SELECTION		BASELINE	SIMULATED STUDENT SELECTION		BASELINE	SIMULATED STUDENT SELECTION	
		POVERTY-BASED SCHOOL SELECTION	DIRECT ALLOCATION		POVERTY-BASED SCHOOL SELECTION	DIRECT ALLOCATION		POVERTY-BASED SCHOOL SELECTION	DIRECT ALLOCATION
DIRECT ALLOCATION DISTRICTS									
Adams County #12	7	8	8	6	12	8	7	7	8
Harrison County	58	82	85	65	88	85	48	71	85
Mesa	38	58	84	44	66	84	33	52	84
Newport	21	39	39	24	39	39	10	39	39
Racine	14	25	25	22	36	25	11	18	25
Santa Fe	51	78	78	58	85	77	22	52	77
ACHIEVEMENT ALLOCATION DISTRICTS									
Charlotte	45	54	54	53	57	54	38	47	54
Winston-Salem	29	38	40	34	42	40	23	31	40
OTHER DISTRICTS									
Alum Rock	27	52	54	29	55	54	17	32	54
Berkeley County	26	33	33	32	36	33	24	28	33
Boston	48	68	74	51	74	74	31	46	74
Houston	20	30	30	25	38	30	9	14	30
Yonkers	53	62	87	69	71	87	22	32	87

A comparison of the coverage results for the poverty-selected schools and for all schools shows few large differences for low achievers overall. In fact, only Mesa and Yonkers show differences greater than 6%. This implies that for most districts, extension of services to all schools would not substantially increase coverage rates over and above those that could be achieved by maximizing student selection procedures within existing Title I schools. This is due to the fact that, in almost every case, poverty-selected schools contain more low-achieving students than can be served under current limits on service. Thus, we see that unless expansion of services to more students also takes place in a district, expansion of Title I to all schools would have about the same effect as could be achieved by optimizing poverty-based school selection.

TECHNICAL APPENDIX

TECHNICAL APPENDIX

Introduction

This appendix presents a more technical discussion of the data and methods used in this paper. No attempt will be made to describe the Title I Demonstration Project from which the data were taken. A more detailed discussion of that project can be found in J. Vanecko, et al., Implementation Decisions and Research Plan.*

Instruments and Variables

The data used in these analyses were obtained by means of a Classroom Roster. This instrument was completed by the universe of third and fourth grade homeroom teachers in sample schools. Schools were sampled with respect to their Title I status in the first two years of the study. Sample sizes for both the baseline and first implementation years are given in Table A-1.

The two Roster variables used in this report were:

- participation in Free Lunch programs; and
- level of reading achievement, a five-point scale based on teacher judgment.

These served as our measures of poverty and achievement, respectively. Those children judged by their teachers to be a year or more below grade level were designated "low achievers."

Weighting

Since schools were sampled for inclusion in the study rather than censused, it was necessary to weight the data when making coverage estimates. The reason for this was that Title I

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*James J. Vanecko, et al., ESEA Title I Allocation Policy: Demonstration Study--Implementation Decisions and Research Plan (Abt Associates Inc.: Cambridge, Massachusetts, December 9, 1977).

TABLE A-1

SAMPLE SIZES FOR THE CLASSROOM ROSTER BY SCHOOL TYPE AND STUDENT TYPE: PRE-DEMONSTRATION AND DURING THE DEMONSTRATION

DISTRICT	TITLE I STATUS	PRE / DEMO	COMMON SCHOOL TYPES				DISTRICT SPECIFIC SCHOOL TYPES	
			1	2	3	4	5	6
ADAMS COUNTY #12	Title I	Pre	42					
		Demo	45	187				
	Non-Title I	Pre	311	1,586				
		Demo	376	1,687				
ALUM ROCK	Title I	Pre	393				209	
		Demo	625	994			556	186
	Non-Title I	Pre	244	332			267	12
		Demo					64	52
BERKELEY COUNTY	Title I	Pre	197					
		Demo	383					
	Non-Title I	Pre	906			559		
		Demo	755			347		
BOSTON	Title I	Pre	787					
		Demo	900	163		997	148	
	Non-Title I	Pre	1,121	315		1,133	384	
		Demo	972	256		997	483	
CHARLOTTE	Title I	Pre	772		259			
		Demo	1,062	711		767		
	Non-Title I	Pre	1,680	2,640	824	846		
		Demo	2,264	136	387	767		
HARRISON COUNTY	Title I	Pre	355					
		Demo	359	129				
	Non-Title I	Pre	742	534				
		Demo	900	397				
HOUSTON	Title I	Pre	1,426					224
		Demo	1,694	199				259
	Non-Title I	Pre	1,793	681		8,852	1,927	331
		Demo	2,153	331		3,605	1,739	390
MESA	Title I	Pre	485					
		Demo	227	133				
	Non-Title I	Pre	1,132	1,246				
		Demo	1,298	1,291				
NEWPORT	Title I	Pre	53					
		Demo	35	74				
	Non-Title I	Pre	114	483				
		Demo	122	385				
RACINE	Title I	Pre	105					
		Demo	137	257				
	Non-Title I	Pre	990	1,853				
		Demo	1,356	1,713				
SANTA FE	Title I	Pre	306					
		Demo	319	79				
	Non-Title I	Pre	905	591				
		Demo	744	533				
WINSTON-SALEM	Title I	Pre	597		80			
		Demo	267	434				
	Non-Title I	Pre	983	2,227	320	1,287		
		Demo	1,159	1,700	421	1,256		
YONKERS	Title I	Pre	373				168	
		Demo	369	42			229	321
	Non-Title I	Pre	99	109		1,230	79	323
		Demo	246	67		1,298	52	322

KEY TO SCHOOL TYPES

School types are assigned contingent upon the status of the school during the first two years of the Demonstration. With the exception of four sites the common school types are:

SCHOOL TYPE	SCHOOL STATUS 1975-76	SCHOOL STATUS 1976-77
1	TI	TI
2	NTI	TI
3	TI	NTI
4	NTI	NTI

For the other sites with additional or non-comparable types (Alum Rock) the assignments are:

DISTRICT	SCHOOL TYPE	SCHOOL STATUS 1975-76	SCHOOL STATUS 1976-77
Alum Rock	1	TI	TI - saturated
	2	NTI	TI - saturated
	5	TI	TI - concentrated
	6	NTI	TI - concentrated
Boston	5	NTI	TI - Demonstration school
Houston	5	NTI	NTI- skipped in allocation
	6	TI	TI - Hold Harmless
Yonkers	5	TI	TI - Demonstration school
	6	NTI	TI - Demonstration school

and non-Title I schools were not equally represented in the sample. In large districts, e.g., Houston, there were many non-Title I schools. Equal representation of Title I and non-Title I schools would have resulted in unwieldy numbers of non-Title I schools. Non-Title I schools therefore were under-sampled.

The weighting consisted principally of adjusting the numbers of students found in each school type* before aggregating these numbers for the whole district. The adjustment was achieved by dividing the actual number of students by the sampling fraction and response rate for each school type. Thus, types which were well represented (i.e., had high sampling fractions) received smaller adjustments while those which were more poorly represented received greater adjustments.

By appropriately defining and computing different totals we could by division estimate rates of coverage for various characteristics. We could, for instance, compute the # POOR SERVED BY TITLE I. Dividing this by the TOTAL POOR gave us a percentage of the poor students covered by Title I. Coverage estimates for other disadvantaged groups were computed in a similar manner.

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*Type is generally based on Title I status of the school during the baseline and first implementation year of the study.

TABLE A-2

DISTRIBUTION AND COVERAGE OF STUDENTS*

DOUBLY DISADVANTAGED

1975-76

DISTRICT	(1) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS	(2) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS WHO ARE ACTUALLY SERVED	(3) COVERAGE OF EACH STUDENT GROUP (1) x (2)
DIRECT ALLOCATION			
Adams County #12	32	20	6
Harrison County	88	73	65
Mesa	66	67	44
Newport	46	59	27
Racine	53	36	19
Santa Fe	85	68	58
ACHIEVEMENT ALLOCATION			
Charlotte	71	73	53
Winston-Salem	42	79	34
OTHER			
Alum Rock	55	52	29
Berkeley County	82	34	28
Boston	71	71	51
Houston	45	56	25
Yonkers	77	90	69

*Results based on participation data developed from the Roster. They therefore reflect the response rates and sampling fractions used in the participation analysis to weight up to the universe of third and fourth graders in the district.

TABLE A-3

DISTRIBUTION AND COVERAGE OF STUDENTS*

LOW ACHIEVING

1975-76

DISTRICT	(1) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS	(2) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS WHO ARE ACTUALLY SERVED	(3) COVERAGE OF EACH STUDENT GROUP (1) x (2)
DIRECT ALLOCATION			
Adams County #12	19	36	7
Harrison County	71	69	49
Mesa	52	63	33
Newport	46	24	11
Racine	27	41	11
Santa Fe	53	47	25
ACHIEVEMENT ALLOCATION			
Charlotte	61	52	38
Winston-Salem	32	73	23
OTHER			
Alum Rock	32	53	17
Berkeley County	64	38	24
Boston	46	70	32
Houston	17	53	9
Yonkers	32	70	22

*Results based on participation data developed from the Roster. They therefore reflect the response rates and sampling fractions used in the participation analysis to weight up to the universe of third and fourth graders in the district.

TABLE A-4

DISTRIBUTION AND COVERAGE OF STUDENTS*

POOR

1975-76

DISTRICT	(1) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS	(2) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS WHO ARE ACTUALLY SERVED	(3) COVERAGE OF EACH STUDENT GROUP (1) x (2)
DIRECT ALLOCATION			
Adams County #12	28	4	1
Harrison County	88	19	17
Mesa	64	32	20
Newport	38	25	9
Racine	58	5	3
Santa Fe	73	21	15
ACHIEVEMENT ALLOCATION			
Charlotte	68	17	12
Winston-Salem	39	27	10
OTHER			
Alum Rock	54	57	31
Berkeley County	84	10	8
Boston	68	25	17
Houston	41	34	14
Yonkers	50	78	39

*Results based on participation data developed from the Roster. They therefore reflect the response rates and sampling fractions used in the participation analysis to weight up to the universe of third and fourth graders in the district.

TABLE A-5

DISTRIBUTION AND COVERAGE OF STUDENTS*

NEITHER LOW ACHIEVING NOR POOR

1975-76

DISTRICT	(1) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS	(2) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS WHO ARE ACTUALLY SERVED	(3) COVERAGE OF EACH STUDENT GROUP (1) x (2)
DIRECT ALLOCATION			
Adams County #12	11	3	0
Harrison County	66	8	5
Mesa	44	17	7
Newport	33	9	3
Racine	32	4	1
Santa Fe	54	5	3
ACHIEVEMENT ALLOCATION			
Charlotte	57	5	3
Winston-Salem	35	9	3
OTHER			
Alum Rock	26	42	11
Berkeley County	58	3	2
Boston	36	14	5
Houston	8	20	2
Yonkers	8	35	3

*Results based on participation data developed from the Roster. They therefore reflect the response rates and sampling fractions used in the participation analysis to weight up to the universe of third and fourth graders in the district.

TABLE A-6

DISTRIBUTION AND COVERAGE OF STUDENTS*

DOUBLY DISADVANTAGED

1976-77

DISTRICT	(1) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS	(2) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS WHO ARE ACTUALLY SERVED	(3) COVERAGE OF EACH STUDENT GROUP (1) x (2)
DIRECT ALLOCATION			
Adams County #12	100	30	30
Harrison County	100	75	75
Mesa	100	47	47
Newport	100	44	44
Racine	100	49	49
Santa Fe	100	68	68
ACHIEVEMENT ALLOCATION			
Charlotte	86	64	55
Winston-Salem	81	59	48
OTHER			
Alum Rock	100	99	99
Berkeley County	77	62	48
Boston	87	71	62
Houston	50	51	26
Yonkers	80	75	60

*Results based on participation data developed from the Roster. They therefore reflect the response rates and sampling fractions used in the participation analysis to weight up to the universe of third and fourth graders in the district.

TABLE A-7

DISTRIBUTION AND COVERAGE OF STUDENTS*

LOW ACHIEVING

1976-77

DISTRICT	(1) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS	(2) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS WHO ARE ACTUALLY SERVED	(3) COVERAGE OF EACH STUDENT GROUP (1) x (2)
DIRECT ALLOCATION			
Adams County #12	100	28	28
Harrison County	100	75	75
Mesa	100	46	46
Newport	100	45	45
Racine	100	44	44
Santa Fe	100	62	62
ACHIEVEMENT ALLOCATION			
Charlotte	87	56	49
Winston-Salem	69	39	27
OTHER			
Alum Rock	100	99	99
Berkeley County	75	56	42
Boston	56	60	34
Houston	21	43	9
Yonkers	36	73	26

*Results based on participation data developed from the Roster. They therefore reflect the response rates and sampling fractions used in the participation analysis to weight up to the universe of third and fourth graders in the district.

TABLE A-8

DISTRIBUTION AND COVERAGE OF STUDENTS*

POOR

1976-77

DISTRICT	(1) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS	(2) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS WHO ARE ACTUALLY SERVED	(3) COVERAGE OF EACH STUDENT GROUP (1) x (2)
DIRECT ALLOCATION			
Adams County #12	100	5	5
Harrison County	100	21	21
Mesa	100	8	8
Newport	100	11	11
Racine	100	15	15
Santa Fe	100	16	16
ACHIEVEMENT ALLOCATION			
Charlotte	89	18	16
Winston-Salem	80	11	9
OTHER			
Alum Rock	100	90	90
Berkeley County	83	28	23
Boston	84	29	24
Houston	43	27	12
Yonkers	62	45	28

*Results based on participation data developed from the Roster. They therefore reflect the response rates and sampling fractions used in the participation analysis to weight up to the universe of third and fourth graders in the district.

TABLE A-9

DISTRIBUTION AND COVERAGE OF STUDENTS*

NEITHER LOW ACHIEVING NOR POOR

1976-77

DISTRICT	(1) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS	(2) PERCENTAGE OF EACH STUDENT GROUP IN TITLE I SCHOOLS WHO ARE ACTUALLY SERVED	(3) COVERAGE OF EACH STUDENT GROUP (1) x (2)
DIRECT ALLOCATION			
Adams County #12	100	3	3
Harrison County	100	7	7
Mesa	100	6	6
Newport	100	6	6
Racine	100	4	4
Santa Fe	100	3	3
ACHIEVEMENT ALLOCATION			
Charlotte	76	7	5
Winston-Salem	61	2	1
OTHER			
Alum Rock	100	85	85
Berkeley County	66	13	8
Boston	59	12	7
Houston	12	14	2
Yonkers	14	54	7

*Results based on participation data developed from the Roster. They therefore reflect the response rates and sampling fractions used in the participation analysis to weight up to the universe of third and fourth graders in the district.